

Davis Energy Group ZEH Team

- DEG, Centex Homes N. Calif. Division, & Florida Solar Energy Center
- Overview of Team Activities
 - Market survey
 - Completed ZEH pilot demonstration in 2002
 - Two “second generation” models completed
 - ZEH option package offered at Windemere, San Ramon

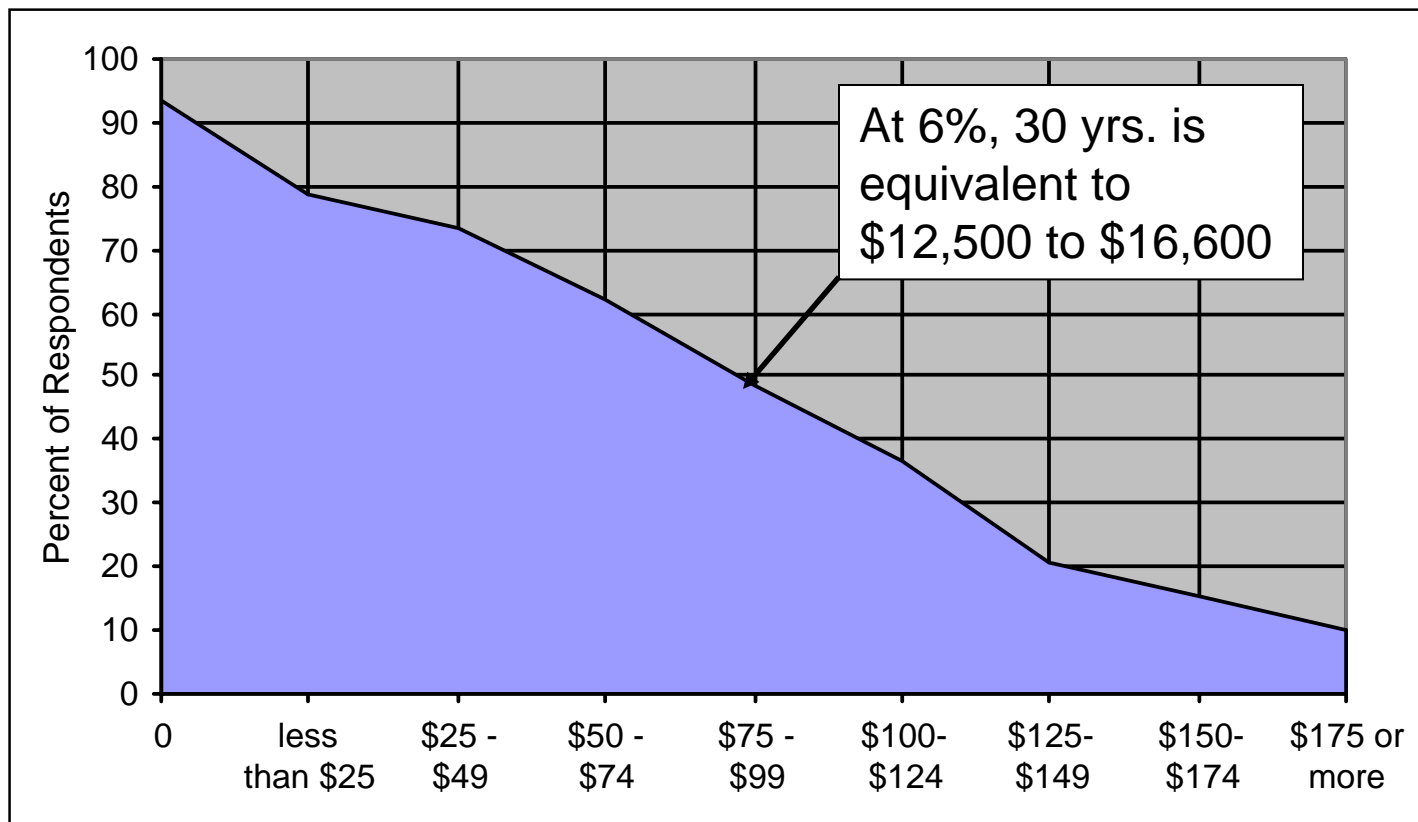
Pilot Demonstration

- Located in Livermore (Los Olivos)
- Generates 100% of electrical energy on net annual basis
- Gas energy savings of about 45%



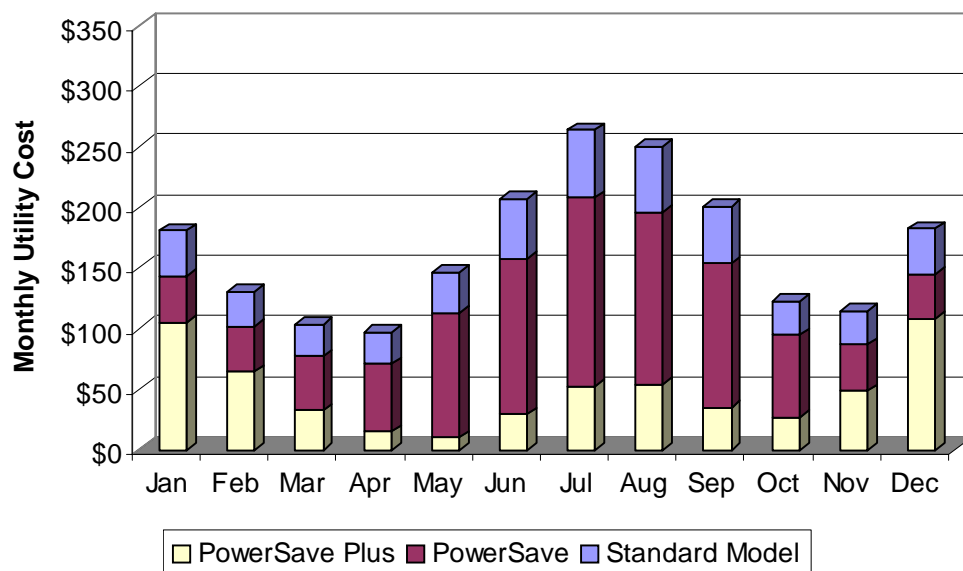
Market Survey

“How much more in monthly mortgage fees would you pay to get a home that cuts the utility bill by 50%?”



“Second Generation” ZEH

	<u>Baseline House</u>		<u>2nd Generation Zero Energy House</u>			
	<u>Energy Use</u>	<u>Energy Cost</u>	<u>Energy Use</u>	<u>Energy Cost</u>	<u>Energy Savings</u>	<u>Dollar Savings</u>
Electric (kWh)	9925	\$1,627	3964	\$0	60%	100%
Gas (Therms)	866	\$821	462	\$441	47%	46%
Combined (MBtu)	195	\$2,448	90	\$441	54%	82%



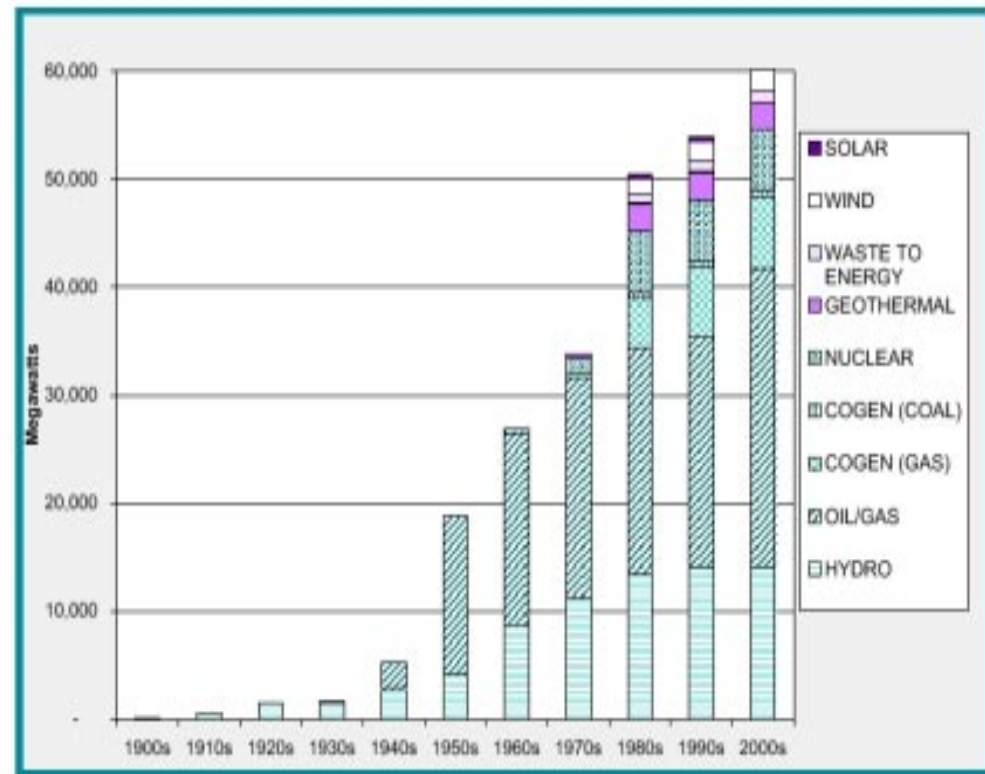
PowerSave Incremental Cost	\$20,577
Amortized Incremental Cost	\$1,480
Annual Energy Savings	\$2,006
Net Positive Cash Flow	\$526

“PowerSave” Models



California ZEH Goals

- Facilitate slow, steady growth to provide significant share of generation within the next decade
- Remove barriers to community-based PV
- Demonstrate economic benefit to utilities and ratepayers



California Program Suggestions

- Conduct market research to identify ZEH buyers' motives and growth potential
- Research community ZEH issues:
 - Determine utility infrastructure and safety needs resulting from reversed grid power flow
 - Estimate PV potential under various growth scenarios
 - Identify utility, participant, and non-participant benefits

California Program Suggestions

- Tailor revised incentive program to provide metered growth
 - Work with PV manufacturers to identify cost & technology trends
 - Include integration with cost-effective efficiency measures (incl. PIER technologies)
 - Consider climate zone specificity
- Coordinate with CPUC to enhance & expand rate programs

California Program Suggestions

- Develop builder and buyer marketing program
- Educate utility decision-makers through seminars and workshops
- Quantify program environmental benefits
- Use results to influence state and federal legislation